

CLAIMS

What is claimed is:

1. An isolated DNA encoding an apoptosis-inducing ligand designated TRAIL, wherein said TRAIL comprises an amino acid sequence selected from the group consisting of amino acids 1 to 281 of SEQ ID NO:2 and amino acids 1 to 291 of SEQ ID NO:6.
2. An isolated DNA according to claim 1, wherein said DNA comprises a nucleotide sequence selected from the group consisting of nucleotides 88 to 933 of SEQ ID NO:1 and nucleotides 47 to 922 of SEQ ID NO:5.
3. An isolated DNA encoding a human TRAIL polypeptide, wherein said TRAIL polypeptide is characterized by the N-terminal amino acid sequence MetAlaMetMetGluValGlnGlyGlyProSerLeuGlyGlnThr, and said TRAIL polypeptide is capable of inducing apoptosis of Jurkat cells.
4. An isolated DNA encoding a TRAIL polypeptide capable of inducing apoptosis of Jurkat cells, wherein said TRAIL polypeptide comprises conservative substitution(s) in an amino acid sequence selected from the group consisting of amino acids 1 to 281 of SEQ ID NO:2 and amino acids 39 to 281 of SEQ ID NO:2.
5. An isolated DNA encoding an TRAIL polypeptide, wherein said TRAIL polypeptide comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of amino acids 1 to 281 of SEQ ID NO:2, wherein said TRAIL is capable of inducing apoptosis of Jurkat cells.
6. An isolated DNA encoding a soluble human TRAIL polypeptide, wherein said soluble TRAIL comprises an amino acid sequence selected from the group consisting of:
 - a) the extracellular domain of human TRAIL (amino acids 39 to 281 of SEQ ID NO:2); and
 - b) a fragment of said extracellular domain, wherein said fragment is capable of inducing apoptosis of Jurkat cells.

7. An expression vector comprising a DNA according to claim 1.
8. An expression vector comprising a DNA according to claim 3.
9. An expression vector comprising a DNA according to claim 4.
10. An expression vector comprising a DNA according to claim 5.
11. An expression vector comprising a DNA according to claim 6.
12. A process for preparing a TRAIL polypeptide, comprising culturing a host cell transformed with a vector according to claim 7 under conditions promoting expression of TRAIL, and recovering the TRAIL polypeptide.
13. A process for preparing a TRAIL polypeptide, comprising culturing a host cell transformed with a vector according to claim 8 under conditions promoting expression of TRAIL, and recovering the TRAIL polypeptide.
14. A process for preparing a TRAIL polypeptide, comprising culturing a host cell transformed with a vector according to claim 9 under conditions promoting expression of TRAIL, and recovering the TRAIL polypeptide.
15. A process for preparing a TRAIL polypeptide, comprising culturing a host cell transformed with a vector according to claim 10 under conditions promoting expression of TRAIL, and recovering the TRAIL polypeptide.
16. A process for preparing a TRAIL polypeptide, comprising culturing a host cell transformed with a vector according to claim 11 under conditions promoting expression of TRAIL, and recovering the TRAIL polypeptide.
17. A purified TRAIL protein comprising an amino acid sequence selected from the group consisting of amino acids 1 to 281 of SEQ ID NO:2 and amino acids 1 to 291 of SEQ ID NO:6.
18. A human TRAIL protein encoded by the cDNA insert of the recombinant vector deposited in strain ATCC 69849.

19. A purified human TRAIL protein characterized by an N-terminal amino acid sequence MetAlaMetMetGluValGlnGlyGlyProSerLeuGlyGlnThr, wherein said TRAIL is capable of inducing apoptosis of Jurkat cells.
20. A purified TRAIL polypeptide capable of inducing apoptosis of Jurkat cells, wherein said TRAIL polypeptide comprises conservative substitution(s) in an amino acid sequence selected from the group consisting of amino acids 1 to 281 of SEQ ID NO:2 and amino acids 39 to 281 of SEQ ID NO:2.
21. A purified TRAIL polypeptide comprising an amino acid sequence that is at least 90% identical to the amino acid sequence of amino acids 1 to 281 of SEQ ID NO:2, wherein said TRAIL is capable of inducing apoptosis of Jurkat cells.
22. A purified soluble TRAIL polypeptide comprising an amino acid sequence that is at least 90% identical to the amino acid sequence of amino acids 95 to 281 of SEQ ID NO:2, wherein said TRAIL is capable of inducing apoptosis of Jurkat cells.
23. A purified soluble human TRAIL polypeptide according to claim 22, wherein said TRAIL polypeptide comprises an amino acid sequence selected from the group consisting of:
 - a) the extracellular domain of human TRAIL (amino acids 39 to 281 of SEQ ID NO:2); and
 - b) a fragment of said extracellular domain, wherein said fragment is capable of inducing apoptosis of Jurkat cells.
24. A soluble TRAIL polypeptide according to claim 23, wherein said polypeptide comprises amino acids 95 to 281 of SEQ ID NO:2.
25. An oligomer comprising from two to three soluble TRAIL polypeptides according to claim 22.
26. A TRAIL trimer comprising three soluble TRAIL polypeptides according to claim 24.
27. An antibody that specifically binds a TRAIL protein according to claim 17.

28. An antibody according to claim 27, wherein said antibody is a monoclonal antibody.